Table of Contents

Preface

Preface_wo_03_15_2004_m

Delete all but the first paragraph and add the following:

The Forest Service, US Department of Agriculture has adopted FP-03 for construction of National Forest System Roads.

101 - Terms, Format, and Definitions

101.00_nat_us_07_25_2005

101.01_nat_us_01_22_2009

101.01 Meaning of Terms

Delete all references to the TAR (Transportation Acquisition Regulations) in the specifications.

101.03_nat_us_06_16_2006

101.03 Abbreviations.

Add the following to (a) Acronyms:

AFPA	American Forest and Paper Association
MSHA	Mine Safety and Health Administration
NIST	National Institute of Standards and Technology
NESC	National Electrical Safety Code
WCLIB	West Coast Lumber Inspection Bureau

Add the following to (b) SI symbols:

mp	Milepost
ppm	Part Per Million

101.04_nat_us_03_29_2007

101.04 Definitions.

Delete the following definitions and substitute the following:

Bid Schedule--The Schedule of Items.

Bridge--No definition.

Contractor--The individual or legal entity contracting with the Government for performance of prescribed work. In a timber sale contract, the contractor is the "purchaser".

Culvert--No definition.

Right-of-Way--A general term denoting (1) the privilege to pass over land in some particular line (including easement, lease, permit, or license to occupy, use, or traverse public or private lands), or (2) Real property necessary for the project, including roadway, buffer areas, access, and drainage areas.

Add the following:

Adjustment in Contract Price--"Equitable adjustment," as used in the Federal Acquisition Regulations, or "construction cost adjustment," as used in the Timber Sale Contract, as applicable.

Change--"Change" means "change order" as used in the Federal Acquisition Regulations, or "design change" as used in the Timber Sale Contract.

Design Quantity--"Design quantity" is a Forest Service method of measurement from the FS-96 *Forest Service Specifications for the Construction of Roads and Bridges.* Under these FP specifications this term is replaced by the term "Contract Quantities".

Forest Service--The United States of America, acting through the Forest Service, U.S. Department of Agriculture.

Neat Line--A line defining the proposed or specified limits of an excavation or structure.

Pioneer Road--Temporary construction access built along the route of the project.

Purchaser--The individual, partnership, joint venture, or corporation contracting with the Government under the terms of a Timber Sale Contract and acting independently or through agents, employees, or subcontractors.

Protected Streamcourse--A drainage shown on the plans or timber sale area map that requires designated mitigation measures.

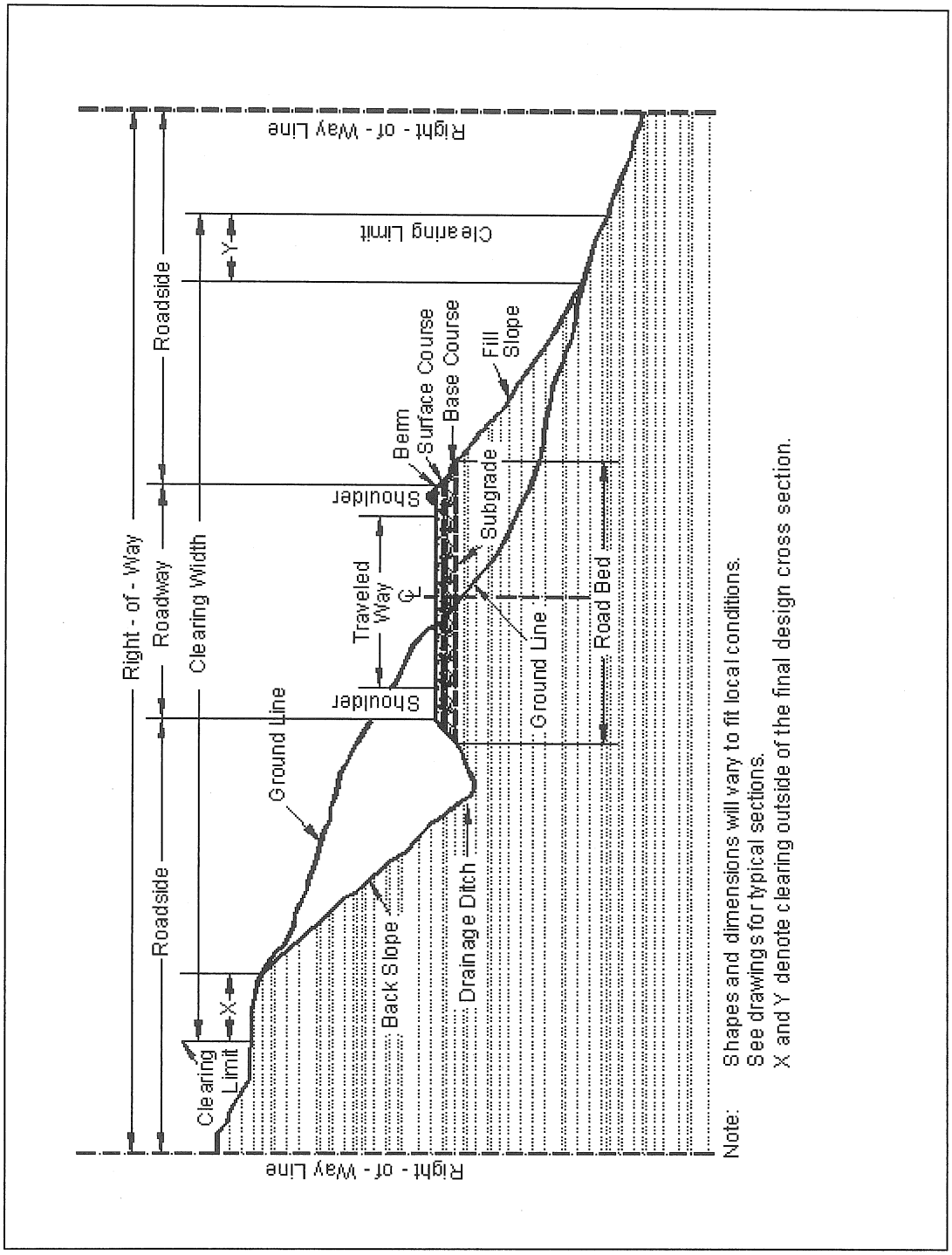
Road Order--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

Schedule of Items--A schedule in the contract that contains a listing and description of construction items, quantities, units of measure, unit price, and amount.

Utilization Standards--The minimum size and percent soundness of trees described in the specifications to determine merchantable timber.

Add Figure 101-1—Illustration of road structure terms:

Figure 101-1—Illustration of road structure terms.



102 - Bid, Award, and Execution of Contract

102.00_nat_us_02_16_2005

102 Bid, Award, and Execution of Contract

Delete Section 102 in its entirety.

103 - Scope of Work

103.00_nat_us_02_16_2005

Deletions

Delete all but subsection 103.01 Intent of Contract.

104 - Control of Work

104.00_nat_us_06_16_2006

Deletions

Delete Sections 104.01, 104.02, and 104.04.

104.06_nat_us_02_17_2005

Add the following subsection:

104.06 Use of Roads by Contractor

The Contractor is authorized to use roads under the jurisdiction of the Forest Service for all activities necessary to complete this contract, subject to the limitations and authorizations designated in the Road Order(s) or described in the contract, when such use will not damage the roads or national forest resources, and when traffic can be accommodated safely.

105 - Control of Material

105.02_nat_us_01_18_2007

105.02 Material Sources.

105.02(a) Government-provided sources.

Add the following:

Comply with the requirements of 30 CFR 56, subparts B and H. Use all suitable material for aggregate regardless of size unless otherwise designated. When required, re-establish vegetation in disturbed areas according to section 625.

105.05_nat_us_05_12_2004

105.05 Use of Material Found in the Work.

Delete 105.05 (a) and (b) and the last sentence of the second paragraph and substitute the following:

Materials produced or processed from Government lands in excess of the quantities required for performance of this contract are the property of the Government. The Government is not obligated to make reimbursement for the cost of producing these materials.

106 - Acceptance of Work

106.07_nat_us_05_11_2004

106.07 Delete

Delete subsection 106.07.

107 - Legal Relations and Responsibility to the Public

107.05_nat_us_05_11_2004

107.05 Responsibility for Damage Claims.

Delete the entire subsection.

107.06_nat_us_06_16_2006

107.06 Contractor's Responsibility for Work.

Delete the following from the first paragraph.

"except as provided in Subsection 106.07".

107.09_nat_us_06_16_2006

107.09 Legal Relationship of the Parties.

Delete the entire subsection.

107.10_nat_us_06_16_2006

107.10 Environmental Protection.

Add the following:

Design and locate equipment repair shops, stationary refueling sites, or other facilities to minimize the potential and impacts of hazardous material spills on Government land.

Before beginning any work, submit a Hazardous Spill Plan. List actions to be taken in the event of a spill. Incorporate preventive measures to be taken, such as the location of mobile refueling facilities, storage and handling of hazardous materials, and similar information. Immediately notify the CO of all hazardous material spills. Provide a written narrative report form no later than 24 hours after the initial report and include the following:

- Description of the item spilled (including identity, quantity, manifest number, and other identifying information).
- Whether amount spilled is EPA or state reportable, and if so whether it was reported, and to whom.
- Exact time and location of spill including a description of the area involved.
- Containment procedures.
- Summary of any communications the Contractor had with news media, Federal, state and local regulatory agencies and officials, or Forest Service officials.
- Description of clean-up procedures employed or to be employed at the site including final disposition and disposal location of spill residue.

When available provide copies of all spill related clean up and closure documentation and correspondence from regulatory agencies.

The Contractor is solely responsible for all spills or leaks that occur during the performance of this contract. Clean up spills or leaks to the satisfaction of the CO and in a manner that complies with Federal, state, and local laws and regulations.

108 - Prosecution and Progress

108.00_nat_us_02_16_2005

108 Delete.

Delete Section 108 in its entirety.

109 - Measurement and Payment

109.00_nat_us_02_17_2005

109 Deletions

Delete the following entire subsections:

109.06 Pricing of Adjustments.

109.07 Eliminated Work.

109.08 Progress Payments.

109.09 Final Payment.

109.02_nat_us_06_16_2006

109.02 Measurement Terms and Definitions.

(b) Contract quantity.

Add the following:

Contract quantities will be adjusted only when there are errors in the original design of 15% or more.

Change the following:

"(b) Cubic yard" to "(c) Cubic yard".

Add the following definition:

(p) Thousand Board Feet (Mbf). 1,000 board feet based on nominal widths, thickness, and extreme usable length of each piece of lumber or timber actually incorporated in the job. For glued laminated timber, 1,000 board feet based on actual width, thickness, and length of each piece actually incorporated in the job.

109.02_0114_us_06_09_2008

109.02 Measurement Terms and Definitions.

Add the following definition:

(q) Actual quantity. (AQ) These quantities are determined from measurements of completed work.

151 - Mobilization

151.00_01_us_10_11_2006

Delete Section 151 in its entirety and replace with the following.

Description

151.01 This work consists of moving personnel, equipment, material, and incidentals to the project and performing all work necessary before beginning work at the project site; obtaining of permits, insurance, and bonds. This work also includes washing and treating construction equipment and vehicles necessary for equipment transport to remove seeds, plants, and plant fragments before the equipment is used on Forest Service lands, according to the requirements within.

Construction Requirements

Wash the sides, tops, and undercarriages of all construction equipment. Remove all seeds, plants, plant fragments, dirt, and debris from the construction equipment. Only equipment inspected by the Forest Service will be allowed to operate within the project area. All subsequent move-ins of equipment to the project area will be treated in the same manner as the initial move-in. This requirement does not apply to cars, pickup trucks, and other vehicles that regularly travel between the construction site and areas off the National Forest.

Equipment will be considered free of soil, seed, and other such debris when a visual inspection does not disclose such material. Disassembly of equipment, components or the need for specialized inspection tools is not required.

Notify the CO in writing at least 72 hours before moving any construction equipment onto the national forest. Notification will include an agreed upon location where the equipment will be available for inspection by the Forest Service. Inspection will be required after every cleaning.

Use methods of cleaning and locations for cleaning approved by the CO.

For work at a commercial washing facility, use an approved facility.

New infestations of noxious weeds of concern to Forest Service and identified by either Contractor or Forest Service, in the Project Area or on the haul route, will be promptly reported to the other party. Contractor and Forest Service will agree on treatment methods to reduce or stop the spread of noxious weeds when new infestations are found. A current list of noxious weeds of concern to Forest Service is available at each Forest Service office.

Measurement

151.02 Clean equipment prior to moving onto this project. The initial cleaning will not be included in the measurement for payment. Payment for cleaning will only be made if subsequent cleanings are ordered by the CO. Measurement shall be on an "each" basis, meaning one complete cleaning of all equipment required for this contract. Subsequent cleanings necessitated by the Contractor's actions but not directed by the CO will not be included in the measurement for payment.

Measure mobilization according to Subsection 109.02.

Payment

151.03 The accepted quantity, measured as provided in Subsection 109.02, will be paid at the contract price per unit of measurement for the Section 151 pay item shown in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Progress payments for mobilization lump sum will be paid as follows:

(a) If applicable, bond premiums will be reimbursed according to FAR Clause 52.232-5 Payments Under Fixed-Price Construction Contracts, after receipt of the evidence of payment.

(b) When 5 percent of the original contract amount is earned from other bid items, 50 percent of the mobilization item, or 5 percent of the original contract amount, whichever is less, will be paid.

(c) When 10 percent of the original contract amount is earned from other bid items, 100 percent of the mobilization item, or 10 percent of the original contract amount, whichever is less, will be paid.

(d) Any portion of the mobilization item in excess of 10 percent of the original contract amount will be paid after final acceptance.

Include all costs associated with the initial cleaning of equipment in the unit bid price for Mobilization. Cleaning for subsequent move-ins will not be paid for unless after a suspension ordered by the CO.

155 - Schedules for Construction Contracts

155.00_nat_us_05_11_2004

155 Delete.

Delete Section 155 in its entirety.

201 - Clearing and Grubbing

201.00_nat_us_08_05_2009

201.02 Material:

Delete Tree wound dressing material reference.

201.03 General.

Delete the last sentence.

201.04 Clearing.

Delete the last sentence of (d).

201.01_nat_us_02_18_2005

201.01 Description

Replace with the following

This work consists of clearing and grubbing within clearing limits and other designated areas.

201.04_nat_us_02_22_2005

201.04 Clearing. (c)

Delete paragraph (c) and replace with the following:

(c) In areas outside the excavation, embankment, and slope rounding limits, cut stumps to within 12 inches or one-third of the stump diameter of the ground, whichever is higher, measured on the side adjacent to the highest ground. For timber sales, stump heights will meet the requirements of the Timber Sale contract.

201.04 Clearing.

Delete subsection (d) and replace with the following:

(d) Do not cut vegetation less than 3 feet tall and less than 3 inches in diameter, that is within the clearing limits but beyond the roadway and not in a decking area, and that does not interfere with sight distance along the road.

Add the following:

(e) Trim branches of remaining trees or shrubs to give a clear height of 14 feet above the roadbed unless otherwise indicated. Trim tree limbs as near flush with the trunk as practicable.

(f) Remove brush from log decks. Deck logs so that logs are piled parallel to one another; can be removed by standard log loading equipment; will not damage standing trees; will not interfere with drainage, and will not roll. Keep logs in log decks free of brush and soil.

201.06_nat_us_02_18_2005

201.06 Disposal.

Delete the first sentence of this subsection and substitute the following:

Dispose of merchantable timber designated for removal according to the provisions of the timber sale contract.

203 - Removal of Structures and Obstructions

203.00_01_us_10_11_2006

203.03 Salvaging Material.

Delete this subsection and add the following:

Unless shown on the plans, remove all designated material from the project area and National Forest land.

203.05 Disposing of Material.

(a) Remove from project.

Delete this paragraph and add the following:

All removed material may be salvaged by the Contractor unless otherwise shown on the plans. Dispose of all items not designated to be salvaged for the Government in any legal manner.

203.01_nat_us_02_25_2005

203.01 Description.

Delete and replace with the following:

This work consists of disposing of construction slash and debris, salvaging, removing, and disposing of buildings, fences, structures, pavements, culverts, utilities, curbs, sidewalks, and other obstructions.

203.02_nat_us_02_18_2005

203.02 Material.

Add the following:

Geotextile	714

203.08_nat_us_02_24_2005

203.08 Payment

Add the following:

Disposal of construction slash will be compensated under the designated pay item in Section 201.

204 - Excavation and Embankment

204.06_0114_us_07_06_2005

204.06 Roadway Excavation

Add the following:

(d) **Drainage Excavation.** Drainage excavation includes construction of side ditches, minor channel changes, inlet and outlet ditches, furrow ditches, rolling drainage dips, surface water deflectors and other minor earth drainage structures as shown on the plans. Compaction for drainage excavation is as shown on the plans.

204.11 Compaction

Delete the first paragraph and replace it with the following:

For compaction according to method (a), (b), or (c), use AASHTO T 27 to determine the amount of material retained on a Number. 4 sieve. For compaction methods (d), (e), or (f) no sieve test is required.

Add the following compaction methods:

(d) Hauling and Spreading Equipment. Adjust the moisture content to a level suitable for compaction. Compact the material by operating equipment over the full width of the roadway.

(e) Roller Compaction. Adjust the moisture content to a level suitable for compaction. Operate Rollers over the full width of each layer until visual displacement ceases, but not fewer than three complete passes. Use rollers that meet the following requirements:

(1) Steel wheeled rollers, other than vibratory, capable of exerting a force of not less than 250 pounds per inch of width of the compression roll or rolls.

(2) Vibratory steel wheeled rollers equipped with amplitude and frequency controls with a minimum weight of 6 tons, specifically designed to compact the material on which it is used.

(3) Pneumatic-tired rollers with smooth tread tires of equal size that will provide a uniform compacting pressure for the full width of the roller and capable of exerting a ground pressure of at least 80 psi.

(4) Sheepsfoot, tamping, or grid rollers capable of exerting a force of 250 lbs/inch of width of roller drum.

(f) Mechanical Tamper. Adjust the moisture content of the backfill material to a moisture content suitable for compaction. Compact each 6 inch layer with a minimum of three complete passes with a mechanical tamper, approved by the CO.

204.14 Disposal of Unsuitable or Excess Material.

Delete the text of the first paragraph and substitute the following:

Dispose of unsuitable or excess material at designated sites or legally off the project.

204.15 Acceptance

Delete the first paragraph.

204.13_0114_us_03_21_2008

204.13 Sloping, Shaping, and Finishing.

Delete section (d) and add the following:

(d) Finishing. Finish the roadbed to be smooth and uniform, and shaped to conform to the typical sections. Remove unsuitable material from the roadbed and replace with suitable material. Finish roadbeds to the designated tolerance class as shown in table 204-2.

Ensure that the subgrade for both surfaced and unsurfaced roads is visibly moist during shaping and dressing. Scarify to 6 inches below the bottom of low sections, holes, cracks, or depressions and bring back to grade with suitable material. Maintain proper ditch drainage.

Use the designated methods to finish the roadbed:

(1) Method A. Remove all material larger than 6 inches from the top 6 inches of the roadbed and replace with suitable material.

(2) Method B. Grid roller or approved equal according to Subsection 204.11 (e).

(3) Method C. For roads designated as Construction Tolerance Class K, L, or M, finish the roadbed by spreading the excavation. Eliminate rock berms.

(4) Method D. Reduce in place or remove and dispose of rocks larger than 4 inches extending above the finished road surface.

Add Table 204-2—Construction Tolerances:

Table 204-2 Construction tolerances.

	Tolerance Class[a]												
	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**
Roadbed width (ft)	+0.5	+0.5	+1.0	+1.0	+1.0	+1.0	+1.5	+1.0	+2.0	+2.0	+2.0	+2.0	+2.0
Subgrade elevation (ft)	±0.1	±0.2	±0.2	±0.5	+0.5	±1.0	±1.0	±1.5	±2.0	±3.0	±2.0	±3.0	(c)
Centerline alignment (ft)	±0.2	±0.2	±0.5	±0.5	±1.0	±1.0	±1.5	±1.5	±2.0	±3.0	±3.0	±5.0	(c)
Slopes, excavation, and embankment (% slope[b]	±3	±5	±5	±5	±5	±5	±10	±10	±10	±10	±20	±20	±20

a. Maximum allowable deviation from construction stakes and drawings.

b. Maximum allowable deviation from staked slope measured from slope stakes or hinge points.

c. Unless otherwise shown the centerline alignment and subgrade elevation, as built, have no horizontal curves with a radius of less than 80 feet, and no vertical curves with a curve length of less than 80 feet when the algebraic difference in the grade change is less than 10 percent, or a curve length of less than 100 feet when the algebraic difference of the grade change is greater than or equal to 10 percent. The centerline grade is not to exceed 20 percent in 100 feet of length.

204.16 Measurement.

b) Unclassified borrow, select borrow, and select topping

Delete first paragraph and add the following:

Measure by the cubic yard in place.

209 - Structure Excavation and Backfill

209.00_01_us_10_11_2006

209.07 Dewatering

Delete the subsection and add the following:

Submit a Dewatering Plan 5 days prior to beginning excavation.

Construct diversion prior to performing any excavation. Construct diversions using water tight, non-eroding methods. Employ settling basins or other methods so that muddy water is not returned to stream. Install, operate, and remove diversions in a manner that minimizes erosion and sedimentation.

209.10 Backfill.

(a) General.

Add the following:

Replace any pipe that is distorted by more than 5 percent of nominal dimensions, or that is ruptured or broken.

Do not place or backfill pipe that meets any of the following conditions until the excavation and foundation have been approved in writing by the CO:

- Embankment height greater than 6 feet at subgrade centerline.
- Installation in a protected streamcourse.
- Round pipe with a diameter of 48 inches or greater.
- Pipe arches with a span of 50 inches or greater.
- Any box culvert of structure other than pipe culverts.

(b) Pipe Culverts.

(1) Pipe culverts with compacted backfill.

Add the following:

On each side of the pipe, excavate an area at least as wide as the diameter of the pipe. Backfill without damaging or displacing the pipe. Complete backfilling of the trench with suitable material.

209.11 Compacting.

Delete the subsection and add the following:

Compact backfill using designated compaction method A, B, C, or D:

Method A. Ensure that backfill density exceeds the density of the surrounding embankment.

Method B. Adjust the moisture content of the backfill material to a moisture content suitable for compaction. Compact each layer 6 inch layer with a minimum of three complete passes or until visual displacement ceases using a mechanical tamper, (wacker-packer type or approved equal). For compaction under sections 252, 254, 255, 257, 258 and 262 compact with a vibratory steel wheeled roller with a mass of at least 8 tons.

Method C. Compact each layer of backfill with a minimum of two passes with mechanical tamper, (wacker-packer type, or approved equal).

Method D. Determine optimum moisture content and maximum density according to AASHTO T 99 method C. Adjust the moisture content of the backfill material to a moisture content suitable for compaction. Compact material placed in all layers to at least 95 percent of the maximum density. Determine the in place density and moisture content according to AASHTO T 310 or other approved test procedures.

209.12 Acceptance.

Sampling and Testing Requirements

Add the following:

Compaction methods (A),(B), and (C) do not require AASHTO T-99 or T-310 test methods for foundation fill.

209.13 See Subsection 109.05

Delete the first sentence and replace with the following:

Do not measure structure excavation, bedding, and backfill for payment.

230 - Roadside Brushing

230.00_0114_us_08_04_2005

Description

230.01 Work. This work consists of removing all vegetative material including limbs, residual slash, live roadside brush, and small trees within the brushing limits designated on the plans.

Construction

230.02 Brushing. Cut all brush and small trees (6 inches diameter, or less, at the point of cut) inside the brushing limits and outside the roadbed no higher than 4 inches above ground level (6 inches for machine brushing). If rocks or other obstructions are encountered, cut no higher than 6 inches above the obstruction. Limb live trees with a diameter larger than 6 inches to provide a clear height of 14 feet above the road surface.

Cut all brush and trees located on the roadbed as nearly flush to the road surface as possible so stumps will not become a hazard to vehicle tires.

230.03 Windfalls. Limb windfalls lying within or across the brushing limits, cut off at the top of the existing cut slope or 5 feet from the shoulder on the fill slope. Dispose of windfall material as slash.

230.04 Road Junctions. Do not deposit brushing debris on the roadway of adjoining roads.

230.05 Slash Treatment. Scatter slash outside the brushing limits without damaging residual trees. Slash is defined as any material that has a length greater than 36 inches or a diameter greater than 2 inches at any point. Do not deposit material in streams, streambeds, culvert inlets or outlets, drainage ways, or cattle guards.

230.06 Acceptance. Roadside brushing will be evaluated under Subsection 106.02.

Measurement

230.07 Method. Measure the Section 230 items listed in the bid schedule according to Subsection 109.02 and the following.

Linear measurements will be horizontal along the road centerline.

Quantities will be the number of miles (or stations) and fractions thereof along the road centerline.

Payment

230.08. The accepted quantities will be paid at the contract price per unit of measurement for the section 230 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this section. See Subsection 109.05.

249 - Composite Road Construction

249.00_0114_us_08_08_2006

Description

249.01 Work. Perform clearing and grubbing, excavation and embankment, and erosion control.

During clearing and grubbing, treat merchantable timber and construction slash, including all trees designated for removal.

Excavation and embankment includes borrow excavation; drainage excavation; placing all excavated material; and shaping the roadway, including approaches, turnarounds, ditches and drainages dips.

Perform erosion control by furnishing and placing seed, fertilizer, mulch and tackifier. Construct the roadway in conformance with the dimensions "shown on the plans" or as staked on the ground.

Construction

249.02 Clearing and Disposal. Protect construction stakes and construction control markers. Remove or treat all trees, snags, downed timber, brush, and stumps within the clearing limits according to the following specifications:

(a) Merchantable Timber. Deck or remove timber meeting Utilization Standards as "shown on the plans".

(b) Unmerchantable Timber. Treat unmerchantable timber as "shown on the plans".

(c) Large Construction Slash. Treat construction slash larger than 3 inches in diameter or longer than 3 feet by one or more of the following methods, as "shown on the plans".

Method A. Incorporate construction slash into the embankment.

Method B. Windrow construction slash inside the clearing limits. When slash is windrowed, place it approximately parallel to the roadway outside the toe of the fill slope.

Method C. Scatter construction slash outside the roadway without damaging trees. Limb all logs. Place logs and stumps away from trees, positioned so they will remain in place and are not on top of one another.

Method D. Construct piles that are free of soil, with smaller slash well mixed with larger slash. Buck unmerchantable logs into lengths less than 30 feet prior to placement in piles.

Method E. Transport construction slash to a location "shown on the plans" or designated by the C.O.

Method F. Bury construction slash within the roadway limits. Construct mats in layers and cover the mats with at least 18 inches of rock and soil.

Method G. Construct piles of construction slash in the areas "shown on the plans" or staked on the ground. Construct piles so burning does not damage standing trees. Burn the piles until all the material remaining in the pile is charred or ash.

Method H. Bury the construction slash outside the roadway at the locations "shown on the plans" or staked on the ground. Construct mats in layers, and cover the mats with at least 18 inches of rock and soil. Slope the final surface to drain.

Method J. Construct a debris mat of construction slash under the road subgrade. Use tree limbs, tops, cull logs, split stumps, wood chunks, and other debris to form a mat. Place stumps upside down and blended into the mat as "shown on the plans".

(d) Small Construction Slash. Construction slash less than 3 inches in diameter and less than 3 feet in length may be incorporated into embankments so long as the material is distributed so that it does not result in concentrations or matting.

Immediately remove slash deposited in stream courses.

Fell all dead trees outside the clearing limits that lean toward the road and are sufficiently tall to reach the roadbed. Fell hazard or unstable live trees designated on the ground outside the clearing limits before felling timber in the immediate clearing vicinity.

Leave stump heights less than 12 inches or one-third of the stump diameter, whichever is greater, measured on the side adjacent to the highest ground. Leave felled trees outside the clearing limits in place, and treat them no further unless otherwise "shown on the plans".

249.03 Pioneering. Do not undercut the final back slope during pioneering operations. Deposit material inside the roadway limits. Do not restrict drainage.

249.04 Grubbing. Grub within the limits as "shown on the plans". Stumps outside the grubbing limits may remain if cut no higher than 12 inches or one-third the stump diameter, which ever is greater, above the original ground, measured on the uphill side, unless otherwise "shown on the plans". Grub stumps that will protrude through the subgrade or have less than 6 inches of cover.

249.05 Excavation and Embankment. Construct the roadway to conform to the typical sections "shown on the plans". Protect backslopes from being undercut. Embankment may be placed by side casting and end dumping.

Locate and use borrow material, remove and treat unsuitable or excess material, as "shown on the plans".

Place rocks that are too large to be incorporated into the embankment outside the traveled way on the downhill side such that they will not roll, obstruct drainage, or hinder roadbed use and maintenance.

Leave slopes that are to be seeded in a roughened condition.

Shape and finish the roadbed to the condition ordinarily accomplished by a crawler tractor with dozer blade to provide drainage of surface water, unless otherwise "shown on the plans". Do not permit individual rocks to protrude more than 4 inches above the subgrade of the roadbed.

Width tolerance for the roadbed is (+) 30 inches unless otherwise "shown on the plans".

249.06 Erosion Control. Perform erosion control measures, including seeding, as "shown on the plans". Use methods and rates of application, and types of seed, fertilizer, mulch, and tackifier, as specified in Section 625 and as "shown on the plans". Apply materials uniformly to the areas to be treated.

Measurement

249.07 Method. Measure the Section 249 items listed in the Bid Schedule according to Subsection 109.02.

Payment

249.08 Basis. The accepted quantities will be paid at the contract price per unit of measurement for Section 249 pay items listed in the Bid Schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

303 - Road Reconditioning

303.00_01_us_10_11_2006

Delete Section 303 in its entirety and replace with the following.

Description

303.01 This work consists of reconditioning ditches, shoulders, roadbeds, parking areas, turnouts, approach road intersections, cattleguards, asphalt surfaces and aggregate surfaces. Construct outslopes, clean and maintain all roadbed drainage structures when shown on the plans.

Material

303.02 Conform to the following Subsection:

Water 725.01

Construction Requirements

303.03 Ditch Reconditioning. Remove all slide material, sediment, vegetation, and other debris from the existing ditches and culvert inlets and outlets. Reshape ditches and culvert inlets and outlets to achieve positive drainage and a uniform ditch width, depth, and grade. Dispose of waste as shown on the plans.

303.04 Shoulder Reconditioning. Repair soft and unstable areas according to Subsection 204.07. Remove all slide material, vegetation, and other debris from existing shoulders

including shoulders of parking areas, turnouts, and other widened areas. Dispose of waste as shown on the plans.

303.05 Roadbed Reconditioning Repair soft and unstable areas according to Subsection 204.07. Remove all organic, deleterious material larger than 6 inches from the top 6 inches of subgrade. Dispose of waste as shown on the plans. Scarify, rip and shape the traveled way and shoulders at locations and to the depth and width designated on the plans. Remove surface irregularities and shape to provide a uniform surface.

Dispose of rock larger than 4 inches brought to the surface during scarification in areas designated on the plans.

For portions of roads not requiring scarification, the roadbed may contain rocks larger than 4 inches provided they do not extend above the finished roadbed surface. Reduce in place or remove rock extending above the finished roadbed surface. Dispose of removed rock in areas designated on the plans.

Compact using the following method as specified:

(a) Compaction A. Operate equipment over the full width.

(b) Compaction B. Operate rollers over the full width of each layer until visual displacement ceases, but not fewer than three complete passes. Use rollers that meet the following requirements:

(1) Steel wheeled rollers, other than vibratory, capable of exerting a force of not less than 250 pounds per inch of width of the compression roll or rolls.

(2) Vibratory steel wheeled rollers equipped with amplitude and frequency controls with a minimum weight of 6 tons, specifically designed to compact the material on which it is used.

(3) Pneumatic-tired rollers with smooth tread tires of equal size that will provide a uniform compacting pressure for the full width of the roller and capable of exerting a ground pressure of at least 80 psi.

303.06 Aggregate Surface Reconditioning. Repair soft and unstable areas to the full depth of the aggregate surface and according to Subsection 204.07. Scarify to the depth of the aggregate surface or to a depth of 8 inches, whichever is less, and remove surface irregularities. Reshape, finish, and compact the entire aggregate surface according to Section 308.

303.07 Roadway Reconditioning. Perform all the applicable work described in Subsections 303.03 through 303.06.

Maintain the existing cross slope or crown unless otherwise shown on the plans. Establish a blading pattern that will retain the surfacing on the roadbed and provide a through mixing of the materials within the completed surface width.

Blade and shape the subgrade for both surfaced and unsurfaced roads when moisture content is suitable for compaction.

303.08 Pulverizing. Scarify the surface to the designated depth and width. Pulverize all material to a size one and one half times the maximum sized aggregate or to 1½ inches, whichever is greater. Mix, spread, compact, and finish the material according to Section 301.

303.09 Acceptance. See Table 303-1 for sampling and testing requirements. Road reconditioning work will be evaluated under Subsections 106.02 and 106.04.

Measurement

303.10 Measure the Section 303 items listed in the Schedule of Items according to Subsection 109.02 and the following as applicable.

Measure ditch reconditioning and shoulder reconditioning by the mile, by the station or foot horizontally along the centerline of the roadway for each side of the roadway.

Measure roadbed reconditioning, aggregate surface reconditioning, roadway reconditioning, and pulverizing by the mile, by the station, or by the square yard.

Payment

303.11 The accepted quantities will be paid at the contract price per unit of measurement for the Section 303 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

602 - Culverts and Drains

602.00_01_us_10_12_2006

602.03 General

Add the following:

Clean and paint damaged coating caused by welding, field cutting, or handling in accordance with AASHTO M 36M and ASTM A 849.

602.05 Laying Metal Pipe

Add the following:

Install helically corrugated lock-seam pipe with the seam at the inlet end placed below the horizontal centerline. This, requirement also applies to the outlet end, when less than 5 feet below subgrade.

602.03_0114_us_08_04_2005

602.03 General.

Delete second paragraph and add the following:

The lengths and locations of individual pipe "as shown on the plans" are approximate. Do not order pipe until culvert locations are designated on the ground and a written list of the correct lengths is approved by the C.O.

625 - Turf Establishment

625.00_0114_us_07_12_2007

625.03 General.

Delete the first sentence and add the following:

Apply turf establishment to portions of slopes, ditches, waste areas, and other disturbed areas within 14 days after being constructed to template lines unless otherwise specified in writing by the C.O..

625.04 Preparing Seedbed.

Delete the second sentence of the first paragraph.

Delete the third paragraph.

625.05 Watering

Delete the entire paragraph.

625.06 Fertilizing.

Delete the entire subsection and add the following.

Apply fertilizer having a chemical analysis as listed in (c) below by the following methods. Apply seed and fertilizer in one application.

(a) Dry Method. Apply the fertilizer with approved power driven seeders, drills, fertilizer spreaders or other mechanical equipment. Hand operated methods are satisfactory on areas inaccessible to mechanical equipment.

(b) Hydraulic method. Use hydraulic-type equipment capable of providing a uniform application using water as the carrying agent. Add fertilizer to the slurry and mix before adding seed.

(c) Chemical analysis. Apply fertilizer at the rate of 240 pounds per acre. Apply fertilizer having the following chemical analysis.

Nutrient	Percent
Nitrogen, N	27
Phosphorus, P_2O_5	10
Potassium, K	10

Fertilizer having a different chemical analysis may be used if approved in advance by the CO.

625.07 Seeding.

Delete the first sentence and add the following.

Apply seed mix shown in (c) below by the following methods.

(a) Dry method.

Delete the third sentence.

Add the following after subsection (b).

(c) Seed Mix. In terms of pure live seed, furnish and apply the following kinds and amounts of seed. Obtain the pounds of seed to furnish per acre by dividing the pounds of pure live seed required per acre by the product of the percent purity and percent germination.

Example: 5 lbs Pure Live Seed/Acre = 6.55 lbs Commercial Seed/Acre

0.90 X 0.85 (Purity = 90% and Germination = 85%)

Kind of Seed	Quantity of Pure Live Seed (Lbs/Acre)
1. Annual Rye	18

2. Hard Fescue	6
3. Orchard Grass	6
Total	**30**

625.08 Mulching.

(b) Hydraulic method.

Delete the first sentence and add the following.

Apply mulch in a separate application from the seed or in a single application with the seed using hydraulic-type equipment according to Subsection 625.07(b).

625.09 Protecting and Caring for Seeded Areas.

Delete the first sentence and add the following.

Protect and care for seeded areas until final acceptance.

625.11 Measurement

Delete the second paragraph and add the following.

Measure seeding, fertilizing, and mulching by the acre on the ground surface or by lump sum.

718 - Traffic Signing and Marking Material

718.05_nat_us_08_05_2009

718.05 Aluminum Panels

Delete the third paragraph and replace with the following:

Clean, degrease and properly prepare the panels according to methods recommended by the sheeting manufacturer. Conversion coatings will conform to ASTM B-921 or ASTM B-449.